2020 Workshop: Snakes on a spaceship

Long title
Snakes on a Spaceship: The Order of the Python
Conveners
Angeline Burrell
Alexa Halford
Russell Stoneback
Description

The pursuit of system science requires integrating measurements from multiple platforms into a coherent system for analysis. The variety of instrument types and data formats makes this challenging. Typically these challenges are solved separately by different research teams, leading to duplicated efforts. The reproducibility of scientific results are also affected, since most journal articles do not include complete analysis descriptions. The study of the magnetosphere and the ionosphere as a system would be enhanced if solutions to these problems were made broadly available to the community. This year, 'Snakes on a Spaceship: The Order of the Python' will focus on Python packages developed by and for the CEDAR community and using version control within a community collaboration.

Agenda

- Marina Schmidt: pyDARN (pdf)
- Liam Kilcommons: AMGeO (pdf)
- Ashton Reimer: Presentation: Resen: The Reproducible Software Environment (pdf) - Project website: InGeo
- Ashley Smith: Swarm Virtual Research Environment (pdf)
- Russell Stoneback: Quick science turn around for CubeSats (pdf)
- John Coxon: Tsyganenko
- Marina Schmidt: GitHub and version control tutorial (pdf)

Justification

Strategic thrust #6: manage, mine, and manipulate geoscience data and models

1) How the questions will be addressed: The challenge of performing system science is addressed by teaching the community about the existence and use of open source science software that enables system science

2) What resources exist, are planned, or are needed: Science python software already exists that helps the community achieve these goals, pysat, pydarn, Resen, etc.

3) How progress should be measured: Participation rates in open source science python software. Publications that use community tools, and software citation rate can also be tracked.

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